

### DESCRIPTION

HDD™ KOPR tool joint and drill rod compound is a premium-quality, unleaded compound containing copper flake, graphite, and other natural extreme pressure and anti-wear additives. HDD™ KOPR uses the same solids package formulated to prevent excessive circumferential makeup by increasing the coefficient of friction under compressive forces as standard KOPR-KOTE® but in a smaller particle size range to accommodate automatic application systems. As stress levels rise above 50% of yield, the friction factor increases, limiting downhole makeup. Full hydraulic joint shoulder faces to mate completely without standoff or deformation. For invert or high-pH muds, use Jet-Lube EXTREME™.

- Not classified as marine pollutant – DOT Approval CA2004080025.
- Contains no lead or zinc.
- Low pour point oil for optimum low temperature performance.
- Specially formulated to meet the requirements of the auto-lube system on most major HDD rigs.
- Extreme pressure additives provide additional protection against seizing and galling and allow consistent make-up.
- Anhydrous calcium grease base protects against rust and corrosion.
- Sticks to wet joints.
- Unequaled resistance to makeup downhole
- Available in Brush on Summer grade.
- Conforms to assembly bill 1953.

SERVICE RATING:  
-65°F (-55°C) TO 300°F (149°C)

### PRODUCT CHARACTERISTICS

|                                            |                     |
|--------------------------------------------|---------------------|
| Thickener                                  | Anhydrous Calcium   |
| Fluid Type                                 | Petroleum           |
| Dropping Point<br>(149°C)<br>(ASTM D-2265) | <300°F              |
| Specific Gravity                           | 1.15                |
| Density (lb/gal)                           | 9.6                 |
| Oil Separation<br>(ASTM D-6184)            | <5.0                |
| WT. % LOSS @ 212°F (100°C)                 |                     |
| Flash Point (ASTM D-92)                    | >320°F (160°C) NLGI |
| Grade 1                                    |                     |
| Penetration @ 77°F<br>(ASTM D-217)         | 325 - 345           |
| Copper Strip Corrosion<br>(ASTM D-4048)    | 1A, typical         |
| 4-Ball (ASTM D-2596)                       |                     |
| Weld Point, kgf                            | 620, typical        |

**For package types and part numbers contact [sales@jetlube.com](mailto:sales@jetlube.com).**

### LIMITED WARRANTY

For warranty information please visit  
[http://www.jetlube.com/pdf/Jet-Lube\\_Warranty.pdf](http://www.jetlube.com/pdf/Jet-Lube_Warranty.pdf)